Өгөгдлийн Сангийн Үндэс – Бие даалт

Сэдэв: Нисэх онгоцны буудлын систем

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Улаанбаатар хот, 2021 он

Е СИСТЕМ /СЭДЭВ ДАВХЦАХГҮЙ/ СОНГОХ

Нисэх онгоцны буудлын систем

НИСЭХ ОНГОЦНЫ БУУДЛЫН СИСТЕМИЙН ӨГӨГДЛТИЙН САНГИЙН ШААРДЛАГА

Ø Систем нь нисэх онгоцны буудлын менежмент дээр суурилдаг. Нисэх онгоцны буудлын менежментийн систем нь үндсэндээ ажилладаг

Ø Өгөгдлийн сангийн систем нь бүх худалдааны үйлчилгээний нисэх онгоцны буудлын мэдээлэлтэй.

Ø Нисэх онгоцны буудал нь хотод байрладаг.

Ø Дэлхийн янз бүрийн улс орнуудаар үйл ажиллагаа явуулдаг олон улсын агаарын тээврийн бүх компаниуд өөрсдийн оффистой

Ø Агаарын тээврийн компани бүрийг агаарын тээврийн кодоор өвөрмөц байдлаар тодорхойлдог. Агаарын тээврийн код нь хоёр үсэгтэй агаарын тээврийн компани юм

Ø Агаарын тээврийн компаниуд нислэг үйлддэг.

Ø Нислэг бүрийг нислэгийн кодоор өвөрмөц байдлаар тодорхойлдог. Нислэгийн код нь агаарын тээврийн кодын хослол юм

Ø Олон улсын агаарын тээврийн нисэх онгоцны буудлын код нь зүгээр л байршлын тодорхойлогч юм. IATA код нь гурван үсэгтэй

o Нислэг нь ирэх цаг, хөөрөх цаг, үргэлжлэх хугацаатай. Нислэг нь бизнес, эдийн засаг, нэгдүгээр зэрэглэлийн гурван төрөлтэй.

o Нислэг нь зогсолтгүй нислэг болон холбогч нислэг гэсэн хоёр төрлийн байж болно.

o Холболтын нислэг нь завсрын зогсоол авч, нислэгээ өөрчлөх боломжтой нислэг юм

Ø Нислэг нь зорчигчдод үйлчилдэг. Нислэг нь зорчигчдыг эх үүсвэрээс хүрэх газар хүртэл тээвэрлэдэг.

Ø Зорчигчийг зорчигчийн үнэмлэх, паспортын дугаараар ялган таних боломжтой.

o Зорчигч бүр нэр, хаяг, нас, хүйс, утас гэх мэт дэлгэрэнгүй мэдээлэлтэй.

Ø Зорчигч онгоцоор зорчиход тасалбар хэрэгтэй. Баталгаажуулахын тулд тийз эсвэл онгоцны тийзийг ашигладаг

o Онгоцны тийзэнд зорчигчийн нэр, олгосон агаарын тээврийн компани, тийз зэрэг мэдээлэл байна

дугаар, эх сурвалж, очих газар, аялсан огноо, суудлын дугаар, анги, үнэ.

o Тасалбарын дугаар нь агаарын тээврийн компанийн 3 оронтой код, 4 оронтой маягтын дугаар, 6 оронтой тоонуудын хослол юм.

Ø Тиймээс агаарын тээврийн компани, эх сурвалж, очих газар, аялсан он сар өдөр, хамгийн чухал нь ангиллаас хамааран

Ø Зорчигч нэг буюу хэд хэдэн тасалбар захиалах боломжтой. Түүний онгоцны тийз захиалсан өдөр нь а захиалгын огноо. Үүний нэгэн адил зорчигч нэг буюу хэд хэдэн тасалбарыг цуцлах боломжтой. Тэр болсон өдөр

Ø Нисэх буудал болгонд ажилчид байдаг.

o Ажилтан бүрийг SSN-ээр тодорхойлдог. Ажилтан бүр ийм нэртэй мэдээлэлтэй байдаг.

хаяг, утас, нас, хүйс, цалин.

o Захиргааны дэмжлэг, инженер, замын хөдөлгөөний зохицуулагч, нисэх онгоцны буудлын үүрэг бүхий ажилчид

o Оффисыг хэвийн ажиллуулахын тулд агаарын тээврийн компани бүрт захиргааны туслах ажилтан хэрэгтэй.

o Мэдээлэлтэй тусгайлан ажилладаг янз бүрийн төрлийн инженерүүд байдаг

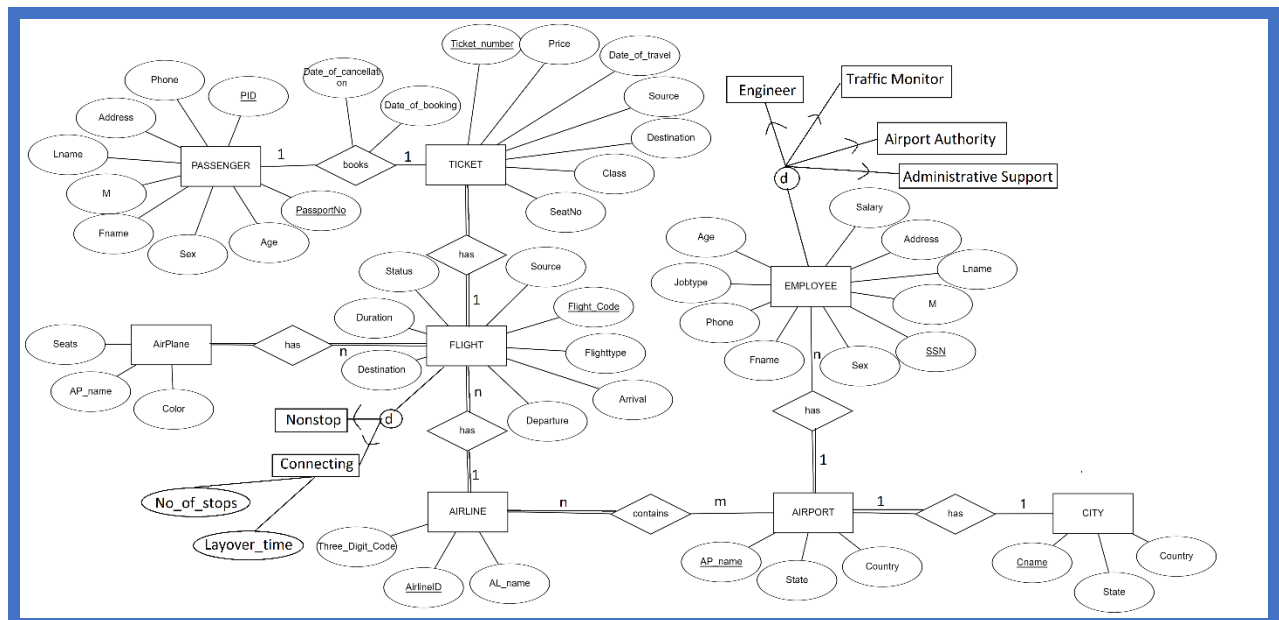технологи, электроник, нислэгийн бүтэц, байгаль орчны дүрэм гэх мэт.

o Замын хөдөлгөөний хяналтын төхөөрөмж нь өдөр, шөнө гэх мэт өөр өөр ээлжээр ажилладаг.

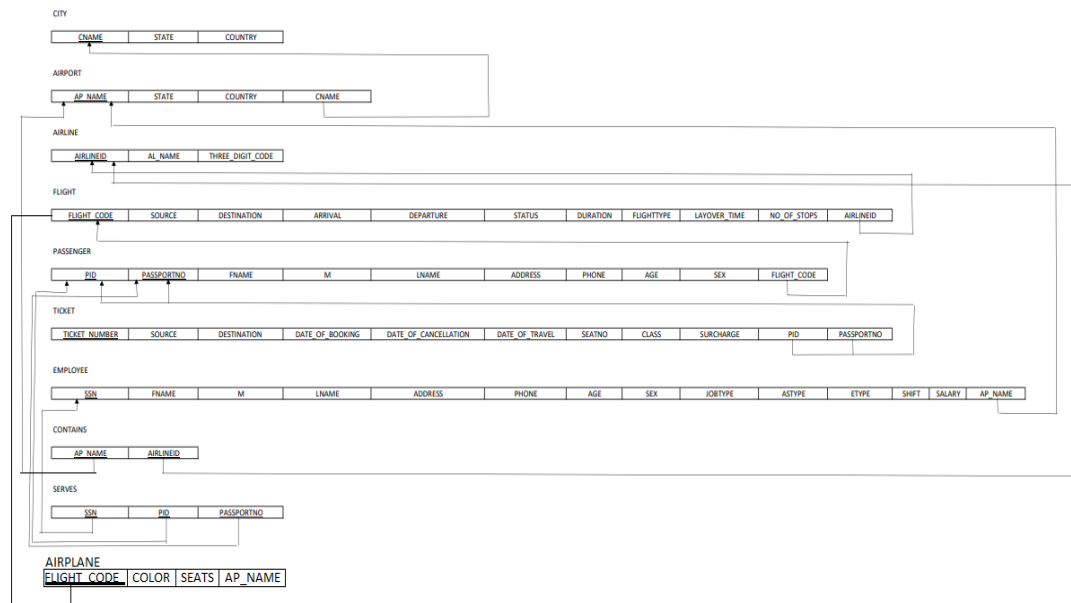o Нисэх буудлын удирдлагууд менежер гэх мэт өөр өөр албан тушаалд ажиллаж болно.

оролцогч, туслах, нисгэгч гэх мэт.

Ø Захиргааны туслах үүрэг гүйцэтгэдэг ажилтнууд зорчигчдод янз бүрийн ажилд тусалж болно

онгоцны тийз захиалах, зорчигчдын асуултыг шийдвэрлэх гэх мэт.

ERD, EERD ЗУРАХ

RD TO RD SCHEMA MAPPING /БУУЛГАЛТ ХИЙХ/

CITY

CNAME	STATE	COUNTRY

AIRPORT

AP_NAME	STATE	COUNTRY	CNAME

AIRLINE

AIRLINEID	AL_NAME	THREE_DIGIT_CODE

FLIGHT

FLIGHT_CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	FLIGHTTYPE	LAYOVER_TIME	NO_OF_STOPS	AIRLINEID

PASSENGER

PID	PASSPORTNO	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX	FLIGHT_CODE

TICKET

TICKET NUMBER	SOURCE	DESTINATION	DATE_OF_BOOKING	DATE_OF_CANCELLATION	DATE_OF_TRAVEL	SEATNO	CLASS	SURCHARGE	PID	PASSPORTNO

EMPLOYEE

SSN	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX	JOBTYPE	ASTYPE	ETYPE	SHIFT	SALARY	AP_NAME

CONTAINS

AP_NAME	AIRLINEID

SERVES

SSN	PID	PASSPORTNO

AIRPLANE

FLIGHT_CODE	COLOR	SEATS	AP_NAME

DBMS ДЭЭР ӨС ҮҮСГЭХ, ЖИШЭЭ ӨГӨГДӨЛ ОРУУЛНА

```sql
CREATE TABLE CITY
(CNAME VARCHAR(15) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
PRIMARY KEY(CNAME));

INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Louisville','Kentucky','United States');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES ('Chandigarh','Chandigarh','India');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES ('Fort Worth','Texas','United States');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Delhi','Delhi','India');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Mumbai','Maharashtra','India');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('San Francisco', 'California', 'United States');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Frankfurt','Hesse','Germany');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Houston','Texas','United States');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('New York City','New York','United States');
INSERT INTO CITY (CNAME, STATE, COUNTRY) VALUES('Tampa', 'Florida', 'United States');

CREATE TABLE AIRPORT
(AP_NAME VARCHAR(100) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
CNAME VARCHAR(15),
PRIMARY KEY(AP_NAME),
```

```sql
                FOREIGN KEY(CNAME) REFERENCES CITY(CNAME) ON DELETE CASCADE);

INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Louisville International Airport','Kentucky','United States','Louisville');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Chandigarh International Airport','Chandigarh','India','Chandigarh');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Dallas/Fort Worth International Airport','Texas','United States','Fort Worth');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Indira GandhiInternational Airport','Delhi','India','Delhi');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Chhatrapati Shivaji International Airport','Maharashtra','India','Mumbai');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('San Francisco International Airport','California', 'United States','San
Francisco');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('Frankfurt Airport','Hesse','Germany','Frankfurt');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('George Bush Intercontinental Airport','Texas','United States','Houston');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)
VALUES('John F. Kennedy International Airport','New York','United States','New York
City');
INSERT INTO AIRPORT (AP_NAME, STATE, COUNTRY, CNAME)

VALUES('Tampa International Airport','Florida', 'United States','Tampa');


CREATE TABLE AIRLINE
(AIRLINEID VARCHAR(3) NOT NULL,
AL_NAME VARCHAR(50),
THREE_DIGIT_CODE VARCHAR(3),
PRIMARY KEY(AIRLINEID));

INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('AA','American
Airlines','001');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('AI','Air India
Limited','098');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('LH','Lufthansa',
'220');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('BA','British
Airways','125');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('QR','Qatar
Airways','157');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('9W','Jet
Airways','589');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('EK','Emirates','176');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES('EY','Ethiad
Airways','607');

CREATE TABLE FLIGHT
(FLIGHT_CODE VARCHAR(10) NOT NULL,
SOURCE VARCHAR(3),
DESTINATION VARCHAR(3),
ARRIVAL VARCHAR(10),
DEPARTURE VARCHAR(10),
STATUS VARCHAR(10),
DURATION VARCHAR(30),
FLIGHTTYPE VARCHAR(10),
```

```sql
LAYOVER_TIME VARCHAR(30),
NO_OF_STOPS INT,
AIRLINEID VARCHAR(3),
PRIMARY KEY(FLIGHT_CODE),
FOREIGN KEY(AIRLINEID) REFERENCES AIRLINE(AIRLINEID) ON DELETE CASCADE);

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('AI2014','BOM','DFW','02:10','03:15','On-time','24hr','Connecting',3,1,'AI');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('QR2305','BOM','DFW','13:00','13:55','Delayed','21hr','Non-stop',0,0,'QR');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('EY1234','JFK','TPA','19:20','20:05','On-time','16hrs','Connecting',5,2,'EY');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('LH9876','JFK','BOM','05:50','06:35','On-time','18hrs','Non-stop',0,0,'LH');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('BA1689','FRA','DEL','10:20','10:55','On-time','14hrs','Non-stop',0,0,'BA');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('AA4367','SFO','FRA','18:10','18:55','On-time','21hrs','Non-stop',0,0,'AA');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('QR1902','IXC','IAH','22:00','22:50','Delayed','28hrs','Non-stop',5,1,'QR');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('BA3056','BOM','DFW','02:15','02:55','On-time','29hrs','Connecting',3,1,'BA');

INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('EK3456','BOM','SFO','18:50','19:40','On-time','30hrs','Non-stop',0,0,'EK');


INSERT INTO FLIGHT(FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES('9W2334','IAH','DEL','23:00','13:45','On-time','23hrs','Direct',0,0,'9W');

CREATE TABLE PASSENGER1
(PID INT NOT NULL,
PASSPORTNO VARCHAR(10) NOT NULL,
PRIMARY KEY(PID, PASSPORTNO));

INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(1,'A1234568');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(2,'B9876541');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(3,'C2345698');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(4,'D1002004');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(5,'X9324666');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(6,'B8765430');
```

```sql
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(7,'J9801235');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(8,'A1122334');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(9,'Q1243567');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(10,'S1243269');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(11,'E3277889');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(12,'K3212322');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(13,'P3452390');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(14,'W7543336');
INSERT INTO PASSENGER1(PID, PASSPORTNO) VALUES(15,'R8990566');

CREATE TABLE PASSENGER2
(PASSPORTNO VARCHAR(10) NOT NULL,
FNAME VARCHAR(20),
M VARCHAR(1),
LNAME VARCHAR(20),
ADDRESS VARCHAR(100),
PHONE INT,
AGE INT,
SEX VARCHAR(1),
PRIMARY KEY(PASSPORTNO));

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('A1234568','ALEN','M','SMITH','2230 NORTHSIDE, APT 11, ALBANY,
NY',8080367290,30,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('B9876541','ANKITA','V','AHIR','3456 VIKAS APTS, APT 102,DOMBIVLI,
INDIA',8080367280,26,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('C2345698','KHYATI','A','MISHRA','7820 MCCALLUM COURTS, APT 234, AKRON,
OH',8082267280,30,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('D1002004','ANKITA','S','PATIL','7720 MCCALLUM BLVD, APT 1082, DALLAS,
TX',9080367266,23,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('X9324666','TEJASHREE','B','PANDIT','9082 ESTAES OF RICHARDSON, RICHARDSON,
TX',9004360125,28,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('B8765430','LAKSHMI','P','SHARMA','1110 FIR HILLS, APT 903, AKRON,
OH',7666190505,30,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('J9801235','AKHILESH','D','JOSHI','345 CHATHAM COURTS, APT 678, MUMBAI,
INDIA',9080369290,29,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('A1122334','MANAN','S','LAKHANI','5589 CHTHAM REFLECTIONS, APT 349 HOUSTON,
TX',9004335126,25,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('Q1243567','KARAN','M','MOTANI','4444 FRANKFORD VILLA, APT 77, GUILDERLAND,
NY',9727626643,22,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
```

```sql
VALUES('S1243269','ROM','A','SOLANKI','7720 MCCALLUM BLVD, APT 2087, DALLAS,
TX',9004568903,60,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('E3277889','John','A','GATES','1234 BAKER APTS, APT 59, HESSE,
GERMANY',9724569986,10,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('K3212322','SARA','B','GOMES','6785 SPLITSVILLA, APT 34, MIAMI,
FL',9024569226,15,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('P3452390','ALIA','V','BHAT','548 MARKET PLACE, SAN Francisco,
CA',9734567800,10,'F');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('W7543336','JOHN','P','SMITH','6666 ROCK HILL, APT 2902, TAMPA,
FL',4624569986,55,'M');

INSERT INTO PASSENGER2(PASSPORTNO,FNAME,M,LNAME,ADDRESS,PHONE,AGE,SEX)
VALUES('R8990566','RIA','T','GUPTA','3355 PALENCIA, APT 2065, MUMBAI,
INDIA',4724512343,10,'M');
CREATE TABLE PASSENGER3
(PID INT NOT NULL,
FLIGHT_CODE VARCHAR(10),
PRIMARY KEY(PID),
FOREIGN KEY(FLIGHT_CODE) REFERENCES FLIGHT(FLIGHT_CODE) ON DELETE CASCADE);

INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(1,'AI2014');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(2,'LH9876');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(3,'9W2334');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(4,'QR1902');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(5,'EY1234');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(6,'BA3056');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(7,'9W2334');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(8,'AA4367');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(9,'QR1902');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(10,'EK3456');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(11,'BA1689');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(12,'QR1902');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(13,'AI2014');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(14,'BA1689');
INSERT INTO PASSENGER3(PID, FLIGHT_CODE) VALUES(15,'QR2305');

CREATE TABLE EMPLOYEE1
(SSN INT NOT NULL,
FNAME VARCHAR(20),
M VARCHAR(1),
LNAME VARCHAR(20),
ADDRESS VARCHAR(100),
PHONE INT,
AGE INT,
SEX VARCHAR(1),
JOBTYPE VARCHAR(30),
ASTYPE VARCHAR(30),
ETYPE VARCHAR(30),
SHIFT VARCHAR(20),
POSITION VARCHAR(30),
```

```sql
AP_NAME VARCHAR(100),
PRIMARY KEY(SSN),
FOREIGN KEY(AP_NAME) REFERENCES AIRPORT(AP_NAME) ON DELETE CASCADE);
INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(123456789,'LINDA','M','GOODMAN','731 Fondren, Houston, TX',4356789345, 35,
'F','ADMINISTRATIVE SUPPORT','RECEPTIONIST','','','','Louisville International Airport');

INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(333445555,'JOHNY','N','PAUL','638 Voss, Houston, TX',9834561995, 40,
'M','ADMINISTRATIVE SUPPORT','SECRETARY','','','','Louisville International Airport');

INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(999887777,'JAMES','P','BOND','3321 Castle, Spring, TX',9834666995, 50,
'M','ENGINEER','','RADIO ENGINEER','','','Louisville International Airport');


INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(987654321,'SHERLOCK','A','HOLMES','123 TOP HILL, SAN Francisco,CA',8089654321, 47,
'M','TRAFFIC MONITOR','','','DAY','','San Francisco International Airport');

INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(666884444,'SHELDON','A','COOPER','345 CHERRY PARK, HESSE,GERMANY',1254678903, 55,
'M','TRAFFIC MONITOR','','NIGHT','','','Frankfurt Airport');


INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(453453453,'RAJ','B','SHARMA','345 FLOYDS, MUMBAI,INDIA',4326789031, 35,
'M','AIRPORT AUTHORITY','','','','MANAGER','Chhatrapati Shivaji International Airport');


INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(987987987,'NIKITA','C','PAUL','110 SYNERGY PARK, DALLAS,TX',5678904325, 33,
'F','ENGINEER','','AIRPORT CIVIL ENGINEER','','','Dallas/Fort Worth International
Airport');


INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(888665555,'SHUBHAM','R','GUPTA','567 CHANDANI CHOWK, DELHI, INDIA',8566778890, 39,
'M','ADMINISTRATIVE SUPPORT','DATA ENTRY WORKER','','','','Indira GandhiInternational
Airport');

INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(125478909,'PRATIK','T','GOMES','334 VITRUVIAN PARK, ALBANY, NY',4444678903, 56,
'M','TRAFFIC MONITOR','','DAY','','','John F. Kennedy International Airport');

INSERT INTO EMPLOYEE1(SSN, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX, JOBTYPE, ASTYPE,
ETYPE, SHIFT, POSITION, AP_NAME)
VALUES(324567897,'ADIT','P','DESAI','987 SOMNATH, CHANDIGARH, INDIA',2244658909, 36,
'M','TRAFFIC MONITOR','','DAY','','','Chandigarh International Airport');
```

```sql
CREATE TABLE EMPLOYEE2
(JOBTYPE VARCHAR(30) NOT NULL,
SALARY INT,

PRIMARY KEY(JOBTYPE));

INSERT INTO EMPLOYEE2(JOBTYPE, SALARY)VALUES('ADMINISTRATIVE SUPPORT',50000);
INSERT INTO EMPLOYEE2(JOBTYPE, SALARY)VALUES('ENGINEER',70000);
INSERT INTO EMPLOYEE2(JOBTYPE, SALARY)VALUES('TRAFFIC MONITOR',80000);
INSERT INTO EMPLOYEE2(JOBTYPE, SALARY)VALUES('AIRPORT AUTHORITY',90000);
CREATE TABLE TICKET1
(TICKET_NUMBER INT NOT NULL,
SOURCE VARCHAR(3),
DESTINATION VARCHAR(3),
DATE_OF_BOOKING DATE,
DATE_OF_TRAVEL DATE,
SEATNO VARCHAR(5),
CLASS VARCHAR(15),
DATE_OF_CANCELLATION DATE,
PID INT,
PASSPORTNO VARCHAR(10),
FOREIGN KEY(PID, PASSPORTNO) REFERENCES PASSENGER1(PID, PASSPORTNO) ON DELETE CASCADE);

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(0011234111122,'BOM','DFW','11-MAY-16','','15-DEC-
16','32A','ECONOMY',1,'A1234568');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(0984567222299,'JFK','BOM','11-JUN-16','10-DEC-16','20-DEC-
16','45D','ECONOMY',2,'B9876541');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1768901333273,'IAH','DEL','21-AUG-16','','25-DEC-
16','1A','BUSINESS',3,'C2345698');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(5890987441464,'IXC','IAH','10-AUG-16','','12-JAN-17','20C','FIRST-
CLASS',4,'D1002004');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1577654664266,'JFK','TPA','13-JUN-16','','10-DEC-
16','54E','ECONOMY',5,'X9324666');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(2206543545545,'BOM','DFW','11-NOV-16','','12-FEB-
17','43B','ECONOMY',6,'B8765430');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(7064321779737,'IAH','DEL','15-NOV-16','','25-DEC-16','27B','FIRST-
CLASS',7,'J9801235');
```

```sql
INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1571357215116,'SFO','FRA','15-OCT-16','','18-DEC-
16','34E','ECONOMY',8,'A1122334');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1570864987655,'IXC','IAH','12-NOV-16','','30-DEC-
16','54C','ECONOMY',9,'Q1243567');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1579283997799,'BOM','SFO','22-JAN-16','','15-DEC-
16','38A','ECONOMY',10,'S1243269');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1255701876107,'FRA','DEL','19-OCT-16','','31-DEC-
16','57F','ECONOMY',11,'E3277889');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1251334499699,'IXC','IAH','20-NOV-16','','12-JAN-
17','45D','ECONOMY',12,'K3212322');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(1258776199490,'BOM','DFW','13-MAY-16','25-MAY-16','15-DEC-
16','37C','ECONOMY',13,'P3452390');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(5891155114477,'FRA','DEL','26-JUN-16','','23-DEC-
16','55C','ECONOMY',14,'W7543336');

INSERT INTO TICKET1(TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES(5893069766787,'BOM','DFW','11-AUG-16','','22-DEC-
16','33F','ECONOMY',15,'R8990566');

CREATE TABLE AIRPLANE
(SEATS INT NOT NULL,
FLIGHT_CODE VARCHAR(10),
COLOR VARCHAR(10),
FOREIGN KEY(FLIGHT_CODE) REFERENCES FLIGHT(FLIGHT_CODE) ON DELETE CASCADE);

INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(1,'AI2014','Red');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(2,'LH9876','Blue');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(3,'9W2334','Orange');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(4,'QR1902','Yellow');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(5,'EY1234','Pink');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(6,'BA3056','Purple');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(7,'9W2334','Cyan');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(8,'AA4367','Neon');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(9,'QR1902','Green');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(1,'EK3456','White');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(10,'BA1689','Black');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(12,'QR1902','Grey');
```

```sql
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(13,'AI2014','White');
INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(14,'BA1689','Yellow');

INSERT INTO AIRPLANE(SEATS, FLIGHT_CODE, COLOR) VALUES(15,'QR2305','Red');
```

ДАВУУ ТАЛЫГ ХАРУУЛСАН АСУУЛГА QUERY БИЧИХ /MIN 10 QUERY/

```sql
/*LAYOVER_TIME iig erembeer harah */
SELECT * FROM `flight` ORDER BY `flight`.`LAYOVER_TIME` DESC;
```

			FLIGHT_CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	FLIGHTTYPE	LAYOVER_TIME ▽ 1	NO_OF_STOPS	AIRLINEID
☐	Edit	Copy	Delete QR1902	IXC	IAH	22:00	22:50	Delayed	28hrs	Non-stop	5	1	QR
☐	Edit	Copy	Delete EY1234	JFK	TPA	19:20	20:05	On-time	16hrs	Connecting	5	2	EY
☐	Edit	Copy	Delete AI2014	BOM	DFW	02:10	03:15	On-time	24hr	Connecting	3	1	AI
☐	Edit	Copy	Delete BA3056	BOM	DFW	02:15	02:55	On-time	29hrs	Connecting	3	1	BA
☐	Edit	Copy	Delete 9W2334	IAH	DEL	23:00	13:45	On-time	23hrs	Direct	0	0	9W
☐	Edit	Copy	Delete LH9876	JFK	BOM	05:50	06:35	On-time	18hrs	Non-stop	0	0	LH
☐	Edit	Copy	Delete EK3456	BOM	SFO	18:50	19:40	On-time	30hrs	Non-stop	0	0	EK
☐	Edit	Copy	Delete BA1689	FRA	DEL	10:20	10:55	On-time	14hrs	Non-stop	0	0	BA
☐	Edit	Copy	Delete AA4367	SFO	FRA	18:10	18:55	On-time	21hrs	Non-stop	0	0	AA
☐	Edit	Copy	Delete QR2305	BOM	DFW	13:00	13:55	Delayed	21hr	Non-stop	0	0	QR

```sql
/*Nislegiin hugatsaag ihees bagaruu harah */
SELECT * FROM `flight` ORDER BY `flight`.`DURATION` DESC;
```

			FLIGHT_CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	▽ 1	FLIGHTTYPE	LAYOVER_TIME	NO_OF_STOPS	AIRLINEID
☐	Edit	Copy	Delete EK3456	BOM	SFO	18:50	19:40	On-time	30hrs	Non-stop	0	0	EK
☐	Edit	Copy	Delete BA3056	BOM	DFW	02:15	02:55	On-time	29hrs	Connecting	3	1	BA
☐	Edit	Copy	Delete QR1902	IXC	IAH	22:00	22:50	Delayed	28hrs	Non-stop	5	1	QR
☐	Edit	Copy	Delete AI2014	BOM	DFW	02:10	03:15	On-time	24hr	Connecting	3	1	AI
☐	Edit	Copy	Delete 9W2334	IAH	DEL	23:00	13:45	On-time	23hrs	Direct	0	0	9W
☐	Edit	Copy	Delete AA4367	SFO	FRA	18:10	18:55	On-time	21hrs	Non-stop	0	0	AA
☐	Edit	Copy	Delete QR2305	BOM	DFW	13:00	13:55	Delayed	21hr	Non-stop	0	0	QR
☐	Edit	Copy	Delete LH9876	JFK	BOM	05:50	06:35	On-time	18hrs	Non-stop	0	0	LH
☐	Edit	Copy	Delete EY1234	JFK	TPA	19:20	20:05	On-time	16hrs	Connecting	5	2	EY
☐	Edit	Copy	Delete BA1689	FRA	DEL	10:20	10:55	On-time	14hrs	Non-stop	0	0	BA

```sql
/*9w2334 nislegiin dugaartai zorchigchdiin medeelliig gargah*/
SELECT p.* FROM FLIGHT f, PASSENGER3 p WHERE f.FLIGHT_CODE = p.FLIGHT_CODE AND f.FLIGHT_CODE = '9W2334';
```

				PID	FLIGHT_CODE
☐	Edit	Copy	Delete	3	9W2334
☐	Edit	Copy	Delete	7	9W2334

```sql
/*a1122334 passportiin dugaartai hunii zahialgiig ustgah*/
delete from PASSENGER1 where PASSPORTNO = 'A1122334';
```

```sql
/*9w nislegiin zurvasaas huuruh nislegiin medeellig gargah*/
select * from FLIGHT where AIRLINEID = (select AIRLINEID from AIRLINE where AIRLINEID = '9W');
```

			FLIGHT_CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	FLIGHTTYPE	LAYOVER_TIME	NO_OF_STOPS	AIRLINEID
☐	Edit	Copy	Delete 9W2334	IAH	DEL	23:00	13:45	On-time	23hrs	Direct	0	0	9W

```sql
/*Louisville hotod bairlah aiportiin ajilchdiin medeelliig gargah*/
select * from EMPLOYEE1 where AP_NAME = (select AP_NAME from AirPort where STATE = (select STATE from CITY where CNAME = 'Louisville'));
```

←T→			▼ SSN	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX	JOBTYPE	ASTYPE	ETYPE	SHIFT	POSITION	AP_NAME
☐	✎ Edit	⅀ Copy	⊖ Delete 123456789	LINDA	M	GOODMAN	731 Fondren, Houston, TX	2147483647	35	F	ADMINISTRATIVE SUPPORT	RECEPTIONIST				Louisville International Airport
☐	✎ Edit	⅀ Copy	⊖ Delete 333445555	JOHNY	N	PAUL	638 Voss, Houston, TX	2147483647	40	M	ADMINISTRATIVE SUPPORT	SECRETARY				Louisville International Airport
☐	✎ Edit	⅀ Copy	⊖ Delete 999887777	JAMES	P	BOND	3321 Castle, Spring, TX	2147483647	50	M	ENGINEER		RADIO ENGINEER			Louisville International Airport

```
/*Business turliin suudal zahialsan zorchigchiin medeellig gargah*/
select * from PASSENGER2 where PASSPORTNO = (select PASSPORTNO from TICKET1 w
here CLASS = 'Business');
```
+ Options

←T→			▼ PASSPORTNO	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX
☐	✎ Edit	⅀ Copy	⊖ Delete C2345698	KHYATI	A	MISHRA	7820 MCCALLUM COURTS, APT 234, AKRON, OH	2147483647	30	F

```
/*airportuudiin ajilchdiin medeellig gargah*/
select a.AP_NAME, count(e.FNAME) as workers from EMPLOYEE1 e, AIRPORT a where
 e.AP_NAME = a.AP_NAME group by a.AP_NAME;
```

←T→				AP_NAME	workers
☐	✎ Edit	⅀ Copy	⊖ Delete	Chandigarh International Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	Chhatrapati Shivaji International Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	Dallas/Fort Worth International Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	Frankfurt Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	Indira GandhiInternational Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	John F. Kennedy International Airport	1
☐	✎ Edit	⅀ Copy	⊖ Delete	Louisville International Airport	3
☐	✎ Edit	⅀ Copy	⊖ Delete	San Francisco International Airport	1

```
/*San Francisco International Airport iin medeelliig harah*/
SELECT * FROM `airport` WHERE `AP_NAME` = 'San Francisco International
Airport';
```
+ Options

←T→				AP_NAME	STATE	COUNTRY	CNAME
☐	✎ Edit	⅀ Copy	⊖ Delete	San Francisco International Airport	California	United States	San Francisco

```
/*Louisville hotod bairlah aiportiin ajilchdiin medeelliig gargah*/
select e.* from EMPLOYEE1 e, AirPort a, CITY c where e.AP_NAME = a.AP_NAME an
d a.STATE = c.STATE and c.CNAME = 'Louisville';
```

ТАЙЛАН

Би нисэх онгоцны буудлын системийн өгөгдөлийн санг сонгон Airport and airline management - Wikipedia, IATA - Airport Operations and Management Digital Training энэхүү сайт аас мэдээлэлүүдээ аван боловсруулж үүн дээрээ тулгуурлан шаардалага болон ERD гаа үүсгэсэн. Харин үүний дараагаар mapping – аа ERD гаа харан Connect хийв. Хамгийн сүүлд нь DBMS дээр ӨС үүсгэх, жишээ өгөгдөл оруулан, оруулсан ӨС дээрээ 10-н ширхэг QUERY бичэв.